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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/464,264	12/17/1999	Russell J. Wilcox	INK-067	7307

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EXAMINER

DASTOURI, MEHRDAD

ART UNIT	PAPER NUMBER
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2623

DATE MAILED: 01/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary	Application No.	Applicant(s)	
	09/464,264	WILCOX ET AL.	
	Examiner	Art Unit	
	Mehrdad Dastouri	2623	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 July 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-46 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-46 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. Applicants' amendment filed July 21, 2004, has been entered and made of record.

Response to Arguments

2. Applicant's arguments with respect to Claims 1-46 have been considered but are moot in view of the new grounds of rejection. Furthermore, Applicants are respectfully requested to provide a copy of International Search Report for the International Publication WO 00/36560 associated with the instant application.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1, 2, 6-13, 16-20, 23-27, 29, 30, 40-46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hasegawa (U.S. 5,055,662) in view of Drzaic et al., (hereinafter Drzaic), (A Printed and Rollable Bistable Electronic Display; Document 33 in IDS filed November 20, 2002).

As per Claim 1, Hasegawa teaches an object having an associated authentication marker comprising:

an object having a first surface (Figure 1 , Page 44, Device construction);

an authentication marker disposed on said first surface of said object (Figures 1, 7A, 7D and 7E; Column 4, Lines 39-43. Balance of the card, i.e., "¥ 1230", is a mark that authenticates (proves the authenticity or actuality) of the remaining balance.);

said authentication marker comprising:

an electrophoretic display medium (Figure 1, Regions 2a and 2b) having a display state (Column 3, Lines 16-47), a first surface (Figure 3, Element 11), a second surface (Figure 3, Element 14 or Element 11); and a plurality of electrophoretic particles disposed between said first and second surfaces (Figure 3, liquid crystal layer 12); and

a first electrode disposed adjacent said first surface of said electrophoretic display medium (Figure 3, Electrode plate 11 having terminals 16a);

wherein said display state changes as result of movement by said electrophoretic particles in response to an electric field applied through said first electrode and to said display medium (Column 3, Lines 16-47).

Hasegawa does not specifically disclose an electrophoretic display medium that inherently electrophoretic particles having a migratory movement.

Drzaic discloses an electrophoretic display medium comprising electrophoretic particles wherein the display changes states as a result of migratory movement of electrophoretic particles in response to an electric field applied through its first electrode and the display medium (Figure 3; Page 2).

Drzaic suggests that the electrophoretic display medium has an expected application of placing into highly flexible plastic components (Page 3, Expected

Applications) that encompasses the pre-paid, cash and credit cards disclosed by Hasegawa.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Hasegawa's invention according to the teachings of Drzaic to utilize a microcapsulated electrophoretic display device in lieu of liquid crystal layer 12 of Hasegawa's invention because it will provide unprecedented flexibility in a reflective, electrically addressable display resulting in improved durability, lighter weight, thinner dimensions, and the ability to integrate the display into curved or flexible devices (Drzaic, Page 1).

As per Claims 25, 26, 30 and 43-46, repeat substantially the same limitations as Claim 1 above and analogous remarks apply.

As per Claim 2, Hasegawa teaches:

a second electrode disposed adjacent to said second surface of said electrophoretic display medium (Figure 3, Element 14).

As per Claim 6, Hasegawa teaches

wherein said electrical signal comprises an electrical field applied between said first and second electrodes (Figure 3; Column 3, Lines 16-47).

As per Claims 7 and 8, they recite substantially the same limitations as Claims 3 and 4 above and analogous remarks apply.

As per Claims 9, 29 and 42, Hasegawa teaches:

wherein said electrophoretic display medium comprises at least one microencapsulated electrophoretic particle (Figure 3, Layer 12. Liquid crystal molecules

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are electrophoretic particles suspended in a fluid and move under the action of an electromotive force.).

As per Claim 10, Hasegawa teaches:

wherein said display state is an optical property. A display state is an inherently optical property (Column 3, Lines 16-29).

As per Claim 11, Hasegawa teaches:

wherein said change in said display state comprises a change to a substantially transparent optical property (Abstract; Column 3, Lines 16-47).

As per Claim 12, Hasegawa teaches:

wherein said change in said display state comprises a change to a substantially opaque optical property (Abstract; Column 3, Lines 16-47).

As per Claim 13, Hasegawa teaches:

wherein the display state is an impedance (Figure 5; Column 3, Lines 48-55)).

As per Claim 16, Sheridan teaches:

wherein said electrophoretic display medium is disposed on said first electrode (Figure 3, Elements 11 or 14)

As per Claim 17, Hasegawa teaches:

wherein said first electrode is a conductive substrate (Figure 3, Element 14).

As per Claim 18, Hasegawa teaches:

wherein said object is selected from the group consisting of currency, stock certificates, bond certificates, negotiable instruments, debit cards, credit cards (Column 1, Lines 8-9).

As per Claim 19, Hasegawa teaches:

wherein the authentication marker is affixed to said first surface of said object (Figure 3, Element 11 is the first surface and the authentication marker is affixed to this).

As per Claim 20, Hasegawa teaches:

a second electrode adapted to interact with said authentication marker wherein said display state changes in response to an electrical signal communicated between said first electrode and said second electrode (Column 3, Lines 16-47).

As per Claims 23 and 40, Hasegawa teaches:

wherein said second electrode is in communication with a validation machine (Column 4, Lines 39-59).

As per Claims 24 and 41, Hasegawa teaches:

a timer in communication with said authentication marker (Column 4, Lines 39-59).

As per Claims 27 and 31, Hasegawa teaches:

wherein said message is text (Figure 1).

5. Claims 3-5, 14, 15, 21, 22, 28 and 31-39 are rejected under 35 V.S.C. 103(a) as being unpatentable over Hasegawa in view of Drzaic et al., (hereinafter Drzaic), (A Printed and Rollable Bistable Electronic Display; Document 33) and Ota (U.S. 3,668,106).

As per Claims 3 and 31, Hasegawa and Drzaic do not specifically disclose the object of Claim 2 wherein at least one of said first electrode and said second electrode is disposed in a pattern forming text

Ota teaches an electrophoretic display device wherein at least one of said first electrode and said second electrode is disposed in a pattern forming text ("E ", Figure 5, Element 23).

It would have been obvious to one of ordinary skill in the art to display some form of text message, such as "OK", "Valid User", or "Mr. Jones' Card" when the user is authenticated and the authentication signal is transmitted to the display of Hasegawa.

As per Claims 4, 28 and 32, Ota teaches:

wherein at least one of said first electrode and said second electrode is disposed in a pattern forming an image (an "E" is an image, Column 5, Lines 33-40, but Ota goes on to teach that smaller picture Elements can be found (Column 6, Lines 25-32), and it is obvious that a variety of images can be made with picture Elements).

It would have been obvious to one of ordinary skill in the art to display some form of image or icon as taught by Ota when the user is authenticated and the authentication signal is transmitted to the display of Hasegawa.

As per Claim 5, Hasegawa does not specifically teach transparent electrodes,

Ota teaches:

wherein at least one of said first and second electrode is substantially clear (transparent, Column 5, Lines 14-15).

It would have been obvious to one of ordinary skill in the art to use the suggestion of Ota to create a system that reveals obscured information via a transparent wall that can be used as an electrode in the authentication display of Hasegawa by using the well known principles taught by Ota.

As per Claim 14, Hasegawa and Drzaic do not specifically teach that their displays reveal or obscure the display, however, Ota teaches:

wherein said change in said display state comprises a change to reveal text obscured by said electrophoretic display medium (Column 3, Lines 8-17 and Column 5, Lines 5-12).

It would have been obvious to one of ordinary skill in the art to use the suggestion of Ota to create a system that reveals obscured information in the authentication display of Hasegawa by using the well known principles taught by Ota so as to create changeable displays.

As per Claim 15, Hasegawa does not specifically teach that their displays reveal or obscure the display, however, Ota teaches:

wherein said change in said display state comprises a change to reveal an image obscured by said electrophoretic display medium (Column 3, Lines 8-17 and Column 5, Lines 5-12).

As per Claims 21 and 38, Ota teaches:

wherein said second electrode is an electrostatic head (Figure 8A, Element 30).

As per Claims 22, 33 and 39, Ota teaches

wherein said second electrode is a charged stylus (col. 6, 11. 70-75).

As per Claim 33, Ota does not specifically teach that he uses conductive ink, however, his electrophoretic material is the functional equivalent of conductive ink (Column 3, Lines 17-25).

As per Claim 34, Ota teaches:

wherein at least one of said first and second electrical signals comprises an electrical field applied between said first electrode and said conductive ink (Column 3, Lines 17-25, the electrophoretic materials are drawn to one electrode and thereby the electric field is applied to the particles via the other electrode.)

As per Claim 35, Ota teaches:

a second electrode disposed adjacent said substrate (Figure 1b, Element 8 or 9) and adjacent said electrophoretic display medium.

As per Claim 36, Ota teaches:

wherein at least one of said first electrical signal and said second electrical signal comprises an electrical field applied between said first electrode and said second electrode (Figure 1a, Elements 10 and 11).

As per Claim 37, Ota teaches:

a second electrode adapted to interact with said electrophoretic display medium (Figure 8A, Element 30).

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

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shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Contact Information

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mehrdad Dastouri whose telephone number is (703) 305-2438. The examiner can normally be reached on Monday to Friday from 8:00 a.m. to 4:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amelia Au can be reached on (703) 308-6604. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Mehrdad Dastouri
Primary Examiner
Art Unit 2623
January 6, 2005

**MEHRDAD DASTOURI
PRIMARY EXAMINER**

Mehrdad Dastouri